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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,454

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Ko Inagaki

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52349

7590

10/27/2009

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EXAMINER

STIMPERT, PHILIP EARL

ART UNIT

PAPER NUMBER

3746

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,454	<b>Applicant(s)</b> INAGAKI ET AL.	
	<b>Examiner</b> Philip Stimpert	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 August 2009 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 6,361,290 to Ide (Ide).

4. Regarding claim 1, Ide teaches a hermetic compressor (see Fig. 12) comprising a hermetic container (1) storing an oil (23), and a compression element (2) accommodated in the hermetic container (1) and compressing a refrigerant gas (see col. 10, ln. 61). Ide teaches that the compressing element (2) comprises a compressing chamber (21), a cylinder (4) forming the compressing chamber (21), a piston (5) inserted into the cylinder (4) and reciprocating, a suction muffler (8) whose one end (8b) communicates (col. 11, ln. 38-42) with the compression chamber (21). Further, Ide

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teaches that the suction muffler (8) has a sound deadening space (the cavity discussed in col. 12, ln. 28 and visible in the drawings, for instance Fig. 1), an inlet pipe (8a) having one end opening to the sound deadening space (in the absence of suction pipe 9), an outlet pipe (8b) having one end opening in the sound deadening space and the other opening to the compression chamber (at 22, col. 11, ln. 5-13), a gas flow forming part (8a or 8b, as shown in Fig. 1) forming a gas flow flowing in a constant direction (namely into or out of the muffler 8, parallel to the axis of the relevant port) in the sound deadening space. Further, the major axis of the inlet pipe where it enters the sound deadening space is horizontal, and is located generally in an upper end of the space along the top wall. Also, the outlet pipe (8b) is arranged below the inlet pipe. Finally, Ide teach an oil discharge opening (col. 12, ln. 65 through col. 13, ln. 2) provided at a lower part of the sound deadening space (and therefore in a downstream side, since the flow starts at the top of the sound deadening space at inlet 8a).

5. Regarding claim 2, Ide teaches an inlet pipe (8a) whose one (interior) end opens to the sound deadening space, and whose other end opens to the hermetic container (1, see Fig. 13). Further, the inlet pipe (8a) is located on a right end face of the sound deadening space (as shown in Fig. 1) and thereby constitutes the gas flow forming part. The examiner notes that "a thin part" is extremely broad, and reads on the sound deadening space as a whole. The inlet and outlet pipe openings are thus considered to be provided at a thin part of the sound deadening space.

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6. Regarding claim 3, Ide teaches that the outlet pipe (8b) opens while being extended to a lower face of the sound deadening space and thereby constitutes the gas flow forming part.

7. Regarding claim 4, as shown in Fig. 5, Ide teaches that the outlet pipe (8b) is substantially near, and thus adjacent, an upper end face (8d) of the sound deadening space.

8. Regarding claims 5 and 8-10, as shown in Fig. 13, Ide teaches that the lower face of the sound deadening space is constituted by a substantially horizontal face. Further, though Ide does not explicitly show the oil discharge opening, it would be provided at an end part of the lower face of the sound deadening space (note that end part may refer to the face as a whole, in its capacity as the lower end of the sound deadening space).

9. Regarding claims 6, 7, and 11-13, Ide teaches that the suction muffler is formed with an annular gas passage between the outer wall (82) and the outlet pipe (8b).

10. Regarding claim 14, Ide teaches a visor (8f) which protrudes as an eaves above the discharge opening.

11. Regarding claim 15, Ide teaches that the opening of the outlet pipe (8b) is provided in the lower central portion (82) of the sound deadening space, which may be considered the thin part thereof.

12. Claims 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US PGPub 2004/0179955 to Lee (Lee).

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13. Regarding claim 16, Lee teaches a hermetic compressor (100) comprising a hermetic container (500) for storing oil (paragraph 54) and a compressing element (300) in the container for compressing a refrigerant gas. Lee teaches that the compressing element (300) comprises a cylinder (31), a piston (34) reciprocating in the cylinder, and a compression chamber (31a) defined by the cylinder and piston. Lee further teaches a suction muffler (400) having a sound deadening space (45) defined within side walls (41, 42) and a bottom wall (in which 48 is formed). Lee teaches that the suction muffler comprises an inlet pipe (46) having an internal opening (at the top thereof) that opens into the sound deadening space (45) and an external opening (at the bottom thereof) for ingress of the refrigerant gas. Lee further teaches that the suction muffler comprises an outlet pipe (41) having an internal opening (41b) that opens into the sound deadening space and an external opening (41a) for egress of the refrigerant to the compression chamber (see Fig. 1). In particular, Lee teaches that the internal opening of the inlet pipe intercepts the wall of the sound deadening space. At the point of interception, the major axis of the pipe is directed in a horizontal direction, satisfying the language of the claim. In another interpretation, the area of the wall which is removed to allow for the entry of gas from the inlet pipe has a finite area and has a horizontal extent, which is considered to extend in a horizontal direction along the wall surface at the point of interception. Also, the internal opening (41b) of the outlet pipe is located lower (per Fig. 3) than the inlet opening. Lee further teach an oil discharge opening (48) provided at a bottom part of the sound deadening space (45) adjacent the near sidewalls such that oil pooled near the junction of the sidewalls and bottom wall can discharge through the

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opening (48). Finally, Lee teaches that the internal opening of the inlet pipe is disposed in a location within the sound deadening space (45) so as to constitute a gas flow forming part that causes a flow of the refrigerant gas along the bottom part in a constant downward direction toward the oil discharge opening to cause the oil to pool thereat.

14. Regarding claim 17, Lee teaches that the internal opening of the inlet pipe is disposed so that the gas flow forming part causes the refrigerant gas to flow along a generally annular path (shown by the arrows in Fig. 4, the annular path is defined by the space between 41 and 42) within the sound deadening space (45).

15. Regarding claims 18 and 19, Lee teaches that the sound deadening space comprises an upper portion (defined by the cylindrical portion of 42) and a lower portion (47 and spherical transition from 42 to 47), the lower portion having a center portion (47) which is thinner than the side portions (hemispheres thereabove, delimited by any arbitrary diameter of the axial cross section) which are arranged on opposite sides of the central portion.

16. Regarding claim 20, Lee teaches a visor (43) which protrudes as an eaves above the oil discharge opening.

### ***Response to Arguments***

17. Applicant's arguments filed 12 August 2009 have been fully considered but they are not persuasive.

18. With respect to the argument that Ide does not teach the outlet pipe opening below the inlet pipe, the examiner disagrees. It appears that the applicant has mistaken the function or arrangement of the elements of Ide. In particular, as shown in Fig. 13 of

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Ide and discussed in column 11, lines 5-12, 8a represents the inlet to the suction muffler, while 8b represents the outlet from the muffler to the compression chamber of the compressor. Further, the inlet (8a) is located above the outlet (8b) in all drawing figures of Ide.

19. With respect to the argument that Lee does not teach horizontal extension of the inlet pipe, the examiner disagrees. Several interpretations of the suction muffling structure of Lee which satisfy the claim language are set forth in the rejection above. Further, a spiral may be considered to constitute a substantially constant circumferential direction, thus Lee is deemed to satisfy that element of the claim language as well.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Stimpert whose telephone number is (571)270-1890. The examiner can normally be reached on Mon-Fri 7:30AM-4:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
Unit 3746

/P. S./  
Examiner, Art Unit 3746  
23 October 2009